

Southern Region Forest Health Update

Wisconsin DNR, Forest Health Protection Unit

August 2nd, 2012 Vol. 9 No. 4

Topics in this update

Gypsy Moth
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Articles in this newsletter were written by Mark Guthmiller, Regional Forest Health Specialist, unless otherwise noted. Thanks to Bill McNee for his substantial contributions to this issue.

Gypsy Moth – Bill McNee

This summer, DNR forest health staff only received a few reports of gypsy moth caterpillars in southern Wisconsin, and no reports of defoliation were received. Larval survival was very good and populations are likely to be higher in 2013. Moderate or heavy defoliation has only been reported from the Bayfield peninsula in far northern Wisconsin.

Adult male moth flight and female egg laying are now underway in the southern half of Wisconsin. Southern Wisconsin is now believed to be past its peak flight period. So far, moth trap catches in the unquarantined western counties are below expectations.

Female gypsy moths are white and do not fly. Female moths and pupae should be crushed with a stick. If you touch the female moth and pick up her pheromone scent, you will find that brown (male) moths are suddenly attracted to you.



Female gypsy moth laying an egg mass.

Emerald Ash Borer (EAB) – Bill McNee

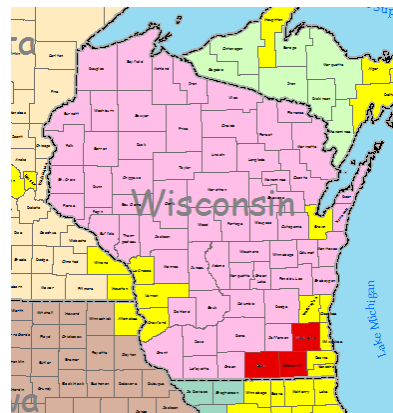
Since the last pest update there have been numerous new detections of Emerald Ash Borer in Wisconsin. EAB has now been detected 12 of Wisconsin's 72 counties. Rock, Walworth and Waukesha Counties had their first EAB detections in the last month. Richard Bong State Recreation Area in western Kenosha County is the first state-owned property to find EAB. A complete list of recent EAB detections as of July 27 is:

Milwaukee Co. – north side of Milwaukee

Rock Co. – Janesville

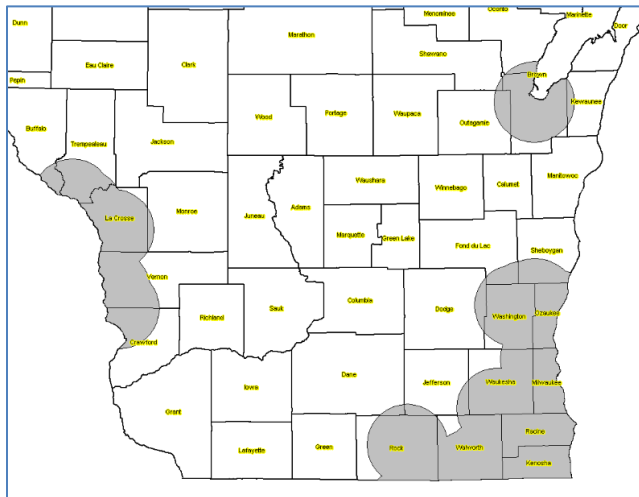
Walworth Co. – Lake Geneva, Fontana and the Town of Walworth

Waukesha Co. – Mukwonago



Counties with first EAB detections in 2012 are shown in red. Yellow counties had first EAB detections in 2011 or earlier.

Kenosha Co. – Richard Bong State Recreation Area, Village of Pleasant Prairie, Village of Twin Lakes and the Town of Wheatland
 Ozaukee Co. – Port Washington
 Brown Co. – Green Bay (infested trees found 3 years after finding a beetle on a trap)



10% of Wisconsin's land area is within 15 miles of an EAB detection (in WI or adjacent state). The 15 mile buffer area (shaded on map) is 5,411 square miles or 3.46 million acres in size.



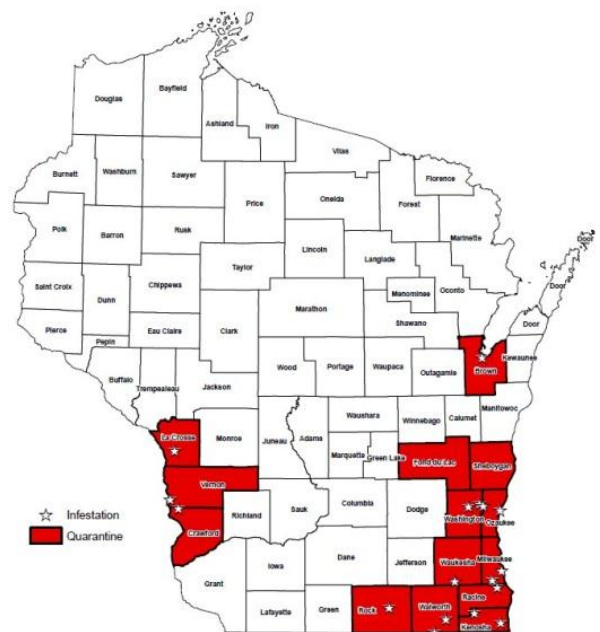
Aerial survey photo of dead ash from EAB at the first detection area near Newburg, WI in Ozaukee County

Rock and Walworth Counties are now quarantined for EAB. Regulated items such as hardwood firewood, ash logs and ash woodchips may be moved within a contiguous red area on the map but may not be moved out of this area. Contact a DNR forest health specialist if moving known EAB infested material within the quarantined area as an NR40 (DNR Invasive Species Rule) permit may be needed. Further guidance is pending on this topic. Movement (within Wisconsin) of regulated items out of the quarantine area requires a compliance agreement issued by the Dept. of Agriculture, Trade and Consumer Protection. A full-sized map (shown below) of the current EAB quarantine can be found at: http://datcpservices.wisconsin.gov/eab/articleassets/WI_EAB_Quarantines_and_Locations.pdf.

Additional rules apply to the movement of firewood into state parks and forests, as well as to the movement of regulated items out of Wisconsin. For more information, visit www.emeraldashborer.wi.gov.

Federal EAB quarantine rules have been simplified as of July 1, but Wisconsin will continue to have a state quarantine that restricts the importation of ash materials and hardwood firewood from areas outside Wisconsin where EAB is known to exist. The federal changes will have no significant effect on Wisconsin residents. For more information, read the DATCP news release at: <http://datcp.wi.gov/news/?Id=585>.

EAB Quarantines & Known Locations
June 2012



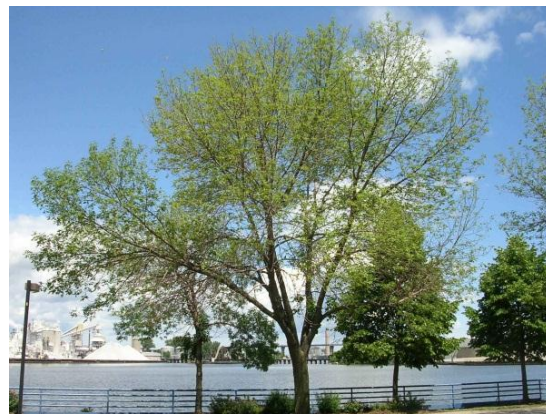
Contact information related to quarantines:

Moving wood products within Wisconsin

Contact Christopher Deegan at 608-224-4573 or e-mail christopher.deegan@wisconsin.gov.

Moving wood products out of Wisconsin

Contact JoAnn Cruse at 608-231-9545 or e-mail Joann.M.Cruse@usda.gov.



EAB-infested tree showing thinning canopy in downtown Green Bay, June 2012 (tree now removed).

Wisconsin has accumulated enough growing degree days that EAB adult flight is now winding down in southern Wisconsin. EAB detection traps in southern counties will be checked and taken down in August.

Since the last pest update there are 2 outlying EAB detections to mention. Connecticut has become the 16th state to find EAB. The pest was found at 2 sites in southwest Connecticut using purple panel traps and biosurveillance using the wasp, *Cerceris fumipennis*. This is the first detection of EAB in New England. The other detection of note is in Kansas City, Missouri. This detection in western Missouri becomes the westernmost find of EAB in North America.



As of July 27, EAB has been found in 44 new counties nationwide (red counties on the map) so far this year. This year, Virginia and Tennessee have the most new county detections in the country. At this time last year, there had been 28 new county detections nationwide.

EAB adult on a penny. Photo from www.forestryimages.org.

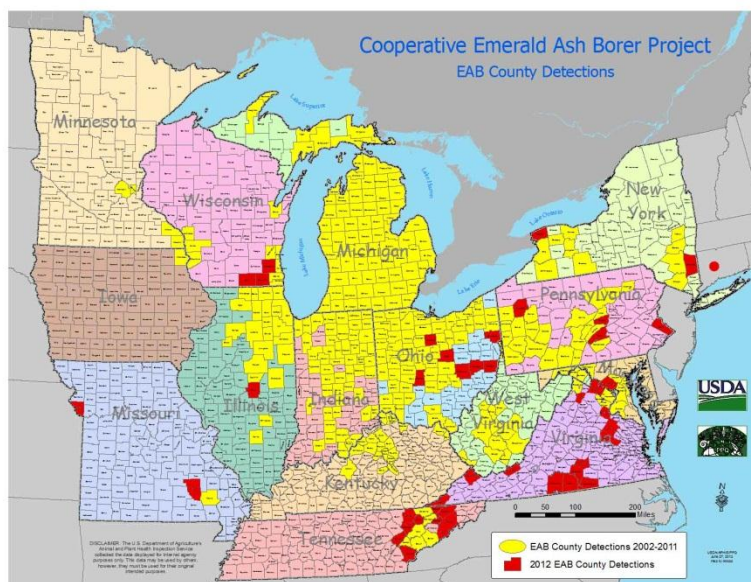
Suspicious beetles or symptomatic trees should be reported to the EAB hotline, 1-800-462-2803, or emailed to:

DATCPEmeraldAshBorer@wisconsin.gov.

Do you want to be in the EAB loop? Don't forget to sign up!

To sign up for automatic e-notification of EAB news reports go to: http://datcp.wi.gov/Gov_Delivery/EAB/index.aspx.

For more information on EAB and updates to quarantines: <http://datcpservices.wisconsin.gov/eab/index.jsp>.



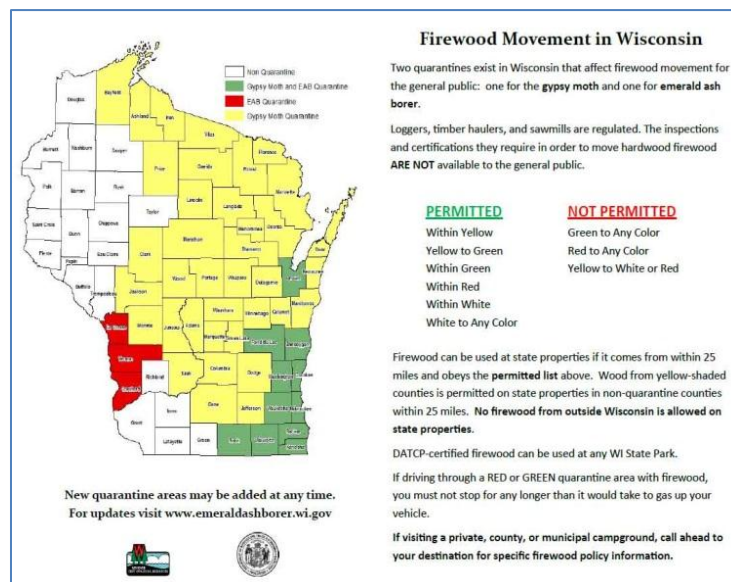
Counties with first EAB detections in 2012 are shown in red.

Firewood – Bill McNee

The map (right) showing allowable firewood movement in Wisconsin has been updated to show additions to state quarantines. The most up to date map can be downloaded from:

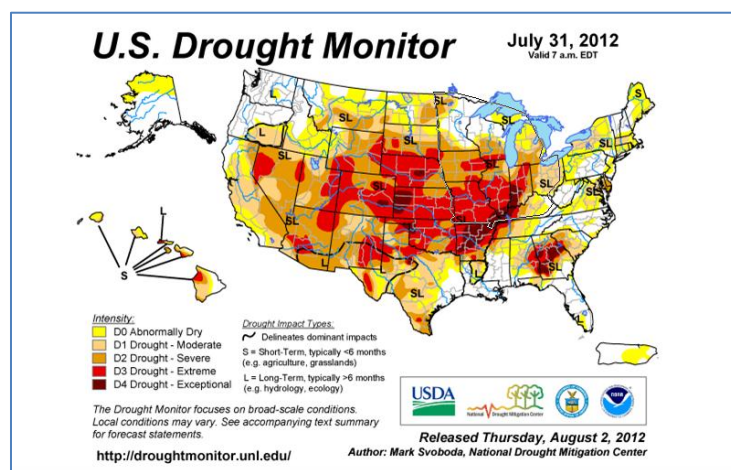
<http://datcpservices.wisconsin.gov/eab/articleassets/Firewood%20Movement%20in%20Wisconsin.pdf>.

More information about firewood movement and quarantines can be found at www.emeraldashborer.wi.gov.



Drought

A few weeks ago I sent an email to forestry staff with some reference materials and thoughts on what we might anticipate in southern WI over the next year or two from this season's drought. Predictions on what damage may occur is still dependent on the remainder of the growing season and what additional moisture we might get. Also, there may be other impacts to other species that are not included in this write up. Conditions have improved somewhat from when this information was sent out but we should still monitor for some of these predicted impacts. Here is the information I shared earlier.



Although conditions have improved in parts of southern WI from a few weeks ago, the southern portion of the state continues to experience severe to extreme drought.

<http://www.droughtmonitor.unl.edu/>

-Are my trees dead?

Probably the most urgent issue to consider is whether or not trees are actually dead or just shutting down systems that look as though a tree may have died. How dramatic tree drought stress symptoms will show depends on a number of different things including tree species, site conditions, moisture deficient, and other past stress events such as flooding, defoliation, frost, etc. Smaller trees and recent plantings will likely have the heaviest mortality impacts while larger trees that were healthy going into the drought will have been more tolerant and able to utilize reserves to stay alive. For small trees and recent plantings one can use a pocket knife, coin edge, or finger nail and scrap small 1/8th - 1/4 inch branches to see if there is still an active green cambium layer underneath the outer bark. Larger trees are harder to evaluate and might require a pruning saw to prune a small branch off up high and do a similar scrape test (for oaks one may still want to consider treating any such pruning wounds with a tree wound dressing).

For more information on immediate drought impacts to trees see "Drought Damage to Trees" by Kim Coder. I believe Kim has been a guest speaker in the past at the WAA/DNR Urban Forestry statewide

conferences. I thought this was a great summary of the short term response of a tree to drought and how the tree shut down progresses.

<http://warnell.forestry.uga.edu/warnell/service/library/index.php3?docID=165>

-Should I water my trees and how much?

The answer is yes with some considerations. First pay attention to your local municipality in terms of watering bans and follow those accordingly. Laura Jull at UW Madison horticulture department created a nice reference document. It does go into a detailed explanation of how much water to apply but if one is using a typical sprinkler system one can also measure volume by simply placing a rain gauge or straight sided glass in the watering area and just monitor until the desired amount has been delivered. Make sure to water beyond the tree drip line to be most effective. Consider watering as needed until freeze up. This is especially important for conifers that will continue to transpire over the winter and could otherwise experience severe winter burn.

<http://hort.uwex.edu/sites/default/files/Drought%20and%20Watering%20Trees%20Jull.pdf>

-My woodlot trees are dying. Can they still be harvested for lumber?

One will want to evaluate that the trees are actually dying before salvage operations begin unless one was planning a harvest for that area already. Trees may be able to rebound from drought stress and other disease and insect issues can mimic severe drought stress and be relatively minor concerns (see tree species examples below). Harvesting decisions should be taken with caution as described in the article below as one may increase stress to the residual stand by harvesting activities. The ability to harvest drought killed trees for lumber will depend on the particular species and how long the tree has been dead. Here is a nice USDA publication that discusses tree condition deterioration in three general appearance classes.

http://na.fs.fed.us/pubs/forest_products/marketing_timber/marketing_dead_timber_print.pdf

The above link talks in general terms regarding deterioration of standing dead trees. Although it may not be directly applicable to standing dead trees and how fast one may need to harvest them, the USDA “Wood Handbook” lists a number of species with a level of heartwood decay resistance which one might be able to correlate to standing dead trees in terms of how rapid one might expect degradation of wood (see page 14-5). http://www.fpl.fs.fed.us/documnts/fplgtr/fplgtr190/chapter_14.pdf

A few examples of our local species in terms of decay resistance (from link above):

Very Resistant:

Black Locust

Resistant:

White Oaks

Black Walnut

Moderately Resistant:

Black Cherry

Eastern White Pine

Tamarack

Slightly or Non-resistant:

Ashes

Aspen

Birches

Elms

Basswood

Hickories

Maples

Spruces

Red and Black Oaks (note: these were not listed in the USDA handbook but were mentioned in Ch. 14 of “Tree Disease Concepts” by Paul Manion)

-Tree Species Specific Considerations

Drought dramatically adds to the risk of buildup of many insects and diseases. There also may be insect and disease issues that one might attribute to severe health problems that are not as much of a concern. Here are a few issues you may encounter:

Oaks:

I am anticipating an increase in dieback and mortality to all species of oaks due to increase in two-lined chestnut borer (TLCB) and Armillaria root rot. This will be one of the biggest impacts in southern Wisconsin. The last big outbreak of TLCB occurred during and after the drought of 1988 and 1989. How wide spread and severe this current problem will be is still hard to predict but if we continue in moderate to severe drought conditions we should anticipate a dramatic increase in this problem. One should also anticipate this problem to be worse in areas that have had other stress issues in the last two to three years such as moderate to severe defoliation, severe frost damage, or prolonged or repeated flooding. One should also anticipate this problem to continue one to three years after the drought breaks. Management can be a bit tricky. In some cases salvage harvesting may be a reasonable option and in some situations delaying harvest such as thinning in non-impacted areas may be the best option. Minnesota has a nice write up that addresses this issue.

http://www.dnr.state.mn.us/treecare/forest_health/tlcb/management.html

A few other issues that may affect the condition of some oaks that may not be as bad as it appears:

Bur and white oaks:

-Cameraria leafminers: These have been common on bur oaks and can cause the leaf to brown up and look dramatic or as if the tree is dying. I have observed this in parts of southern WI recently. Yes, it can be an added stress but don't assume the tree is dead as it will likely re-leaf just fine:

<http://www.fs.fed.us/r8/foresthealth/pubs/oakpests/p12.html>

-Bur oak blight (Tubakia): This has been detected in many parts of southern WI and also is an added stress to the tree. How much of an impact this disease has to the health of a tree is still debatable. This disease shows up in mid to late summer and Iowa State staff have been observing this disease for the last couple of weeks (note the leaf underside dark lesions on the veins) :

http://na.fs.fed.us/pubs/palerts/bur_oak_blight/bob_print.pdf

Hickories:

I am anticipating we will see an increase in hickory mortality. The increase in mortality will largely be due to the conducive conditions for hickory bark beetle. There has been research going on regarding hickory bark beetle and fungi that they are vectoring. Salvage harvest as sanitation is the only recommendation. Similar considerations on salvage harvest should be considered as mentioned in the Minnesota article above related to TLCB.

<http://dnr.wi.gov/topic/ForestHealth/documents/HickoryMortalityFactsheet.pdf>

-Hickory leaf stem gall: I have observed this on hickory this summer and the leaves often blacken up on the tree and drop to the ground alarming homeowners:

<http://greenindustry.uwex.edu/problemdetails.cfm?problemid=57>

Pines:

I am anticipating we may see an increase in Ips (and other) bark beetles in red and white pine stands. If we continue to get moisture this growing season the risk should subside faster than that for oaks and TLCB. If we continue in a moderate to severe drought we should be expecting outbreaks next spring.

One should re-familiarize themselves with bark beetle management recommendations:
<http://dnr.wi.gov/topic/ForestHealth/BarkBeetles.html> (click on the management tab)

Another pine issue to be aware of is Diplodia shoot blight and canker. We should expect to see an increased impact from this disease which thrives on drought stressed pines. Be especially alert to hail damaged pine this season and next spring and be prepared for salvage harvest if such occurs:
http://www.na.fs.fed.us/spfo/pubs/howtos/ht_conifers/ht_conifers.htm

Emerald Ash Borer

As with so many of our woodborers, they love these drought conditions. Expect more detections and more dead trees. Combined drought stress and larval damage will likely speed up symptom development making observation detections more common.

Wilt Diseases (oak wilt, verticillium wilt, and Dutch elm disease):

Although I am not anticipating a major increase in these types of disease due to drought, with the exception of dutch elm disease, the symptoms of infected trees develop much more rapidly under drought stress. Dutch elm disease is likely to increase due to the favorable conditions for elm bark beetles.

Tamarack:

Eastern larch beetle will likely increase in drought stressed tamarack stands in southern WI. In addition, if low water conditions and prolonged winter cold temperature occur this winter, we may see cold root injury and tree mortality next spring.

Aspen and Birches:

Expect to see increased mortality due to bronze poplar borer and bronze birch borer. For aspen this will be especially true where forest tent caterpillar or other defoliators have been active. In urban settings, Japanese beetle defoliation will add to tree stress which is conducive for bronze birch borer.

Firewood Concerns:

With the expected increase in dead standing timber we can expect an increased risk of firewood movement. Continuing the “Don’t Move Firewood” outreach will be important.

-WI DATCP Firewood Restrictions Page:

http://datcp.wi.gov/Plants/Firewood/Firewood_Restrictions/index.aspx

-WI DNR Property Firewood Rule Maps: <http://dnr.wi.gov/topic/Invasives/FirewoodMaps.html>

Other drought resources:

-WI DNR Drought Page: <http://dnr.wi.gov/emergency/drought/>

-NOAA Drought Page: <http://www.drought.noaa.gov/>

-NOAA Drought Map: <http://www.cpc.ncep.noaa.gov/products/Drought/>

Miscellaneous

Brown Marmorated Stink Bug (from WI DATCP newsletter):

UW Extension Entomologist Phil Pellitteri confirms that a single specimen of the brown marmorated stink bug (BMSB) was collected “at lights” in west Madison on July 14. This latest find, in combination with an earlier detection at a Middleton residence last spring, strongly suggests that the invasive stink bug is established in Dane County. BMSB has been found indoors or in association with shipping materials on at least seven occasions since 2010.

To identify BMSB visit: <http://njaes.rutgers.edu/stinkbug/identify.asp>

Japanese Beetle

Japanese beetle has not seemed as intense this season as last year but certain areas continue to show feeding damage. I have been monitoring a pair of linden trees in a local Oregon park and they experienced heavy feeding damage for the 4th year in a row. Each year they seem to come back just fine.

Here is recorded interview on Japanese beetle with UW extension entomologist, Phil Pellitteri, from this past June: <http://news.cals.wisc.edu/departments/podcasts/2012/06/08/pellitteri-the-japanese-beetle-invasion-audio/http://news.cals.wisc.edu/departments/podcasts/2012/06/08/pellitteri-the-japanese-beetle-invasion-audio/>

(From Mike Hillstrom, July 2011)

Japanese beetle larvae live in the soil and eat the roots of turf grass and ornamentals. Adult beetles are pests of more than 300 plant species including Norway and Japanese maples, birch, crabapples, purple-leaf plums, roses, mountain ash and linden. They are such a destructive pest because of their wide host range, ability to fly (1/2 mile), and long (for an insect) adult feeding period (~ 2 months). Adult feeding on leaves creates a characteristic lace-like skeleton as the beetles chew between the veins. Adult beetles are shiny, metallic green with coppery-brown wing covers



Adult Japanese beetles feeding

Japanese beetle management- Management of Japanese beetles is typically frustrating and difficult. Putting up traps to capture beetles has been shown to attract more beetles to the area which can lead to more damage than if you did nothing. Maybe you’ll be lucky and your neighbors will put up traps! Spraying the beetles with insecticide works for a few days but the beetles often return from nearby areas that were not treated. This means the only realistic option for many landowners is maintaining tree health and letting the beetles run their course. If you want to protect high value plants with insecticide keep in mind that both the adult and larvae cause damage and treatment of both life stages may be necessary. Insecticides for use on Japanese beetles can be found at any garden or hardware store and should be applied to foliage and flowers in the afternoon when the beetles are most active. Several biological control options (milky spore disease, nematodes, fungal pathogens) are available to kill larvae in the soil but their effectiveness is inconsistent. Find more info at (<http://entomology.wisc.edu/~rcwillie/x1062.pdf>).

Millipedes

Last year there were a few reports of large numbers of millipedes. I received a recent report from Muskego, WI with a fair number of millipedes showing up at a local business. Thanks to Mike Mitchell for sharing his pictures. For more information on this critter: <http://hort.uwex.edu/articles/millipedes>

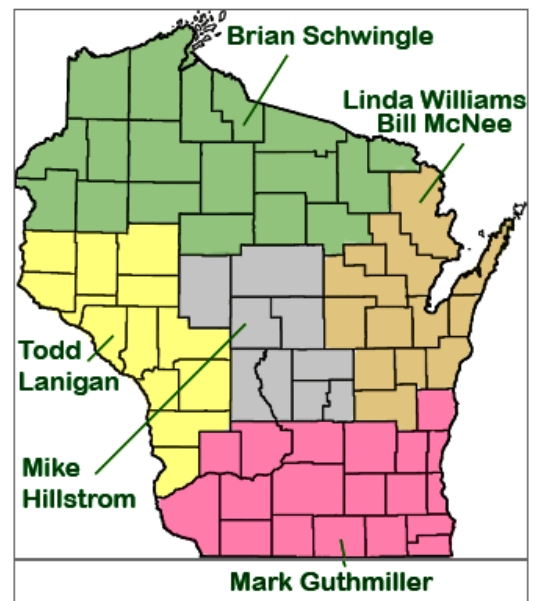


Forest Health Staff Coverage

Although the statewide forestry program has switched from regions to districts, the forest health program is maintaining current county coverage as prior to the reorganization. Based on annual and developing workloads these boundaries may change. Our website and newsletters are the best place to monitor who you should contact for assistance with tree health issues.

Staff link: <http://dnr.wi.gov/topic/ForestHealth/staff.html>

Note that Bill McNee is currently assisting with coverage in southeastern WI for issues related to emerald ash borer, gypsy moth, and beech bark disease. See below for more information on forest health coverage and assistance.



SOR Forest Health Assistance

Wisconsin DNR, Forest Health Protection Unit

September 2011 to September 2012

Contacts for DNR staff, municipal foresters, and forestry cooperators

For general forest health and municipal level urban forest health issues

Mark Guthmiller (Old SOR region: SCR & SER combined) 608-275-3223

For gypsy moth

Mark Guthmiller (Old SCR Team area) 608-275-3223

Bill McNee (Old SER Team area) 920-303-5421

Andrea Diss-Torrance (Statewide issues) 608-264-9247

For emerald ash borer

Mark Guthmiller (Old SCR Team area) 608-275-3223

Bill McNee (Old SER Team area) 920-662-5430

For beech bark disease/beech scale

Mark Guthmiller (Old SCR Team areas) 608-275-3223

Bill McNee (Old SER Team area) 920-662-5430

For invasive plants

Mark Guthmiller (Old SOR region: SCR & SER combined) 608-275-3223

Tom Boos (Statewide issues) 608-266-9276

Direct public inquiries regarding yard tree concerns to UW county or state extension offices:

UW Extension <http://www.uwex.edu/ces/cty/>

or

Emerald ash borer hotline 1-800-462-2803

Emerald ash borer e-mail DATCPEmeraldAshBorer@wi.gov

Gypsy moth hotline 1-800-642-MOTH

Additional Program Web-based Resources:

Forest Health web site: <http://www.dnr.state.wi.us/topic/ForestHealth/>

Gypsy Moth web site: <http://gypsymoth.wi.gov/>

Emerald ash borer web site: <http://www.dnr.state.wi.us/topic/ForestHealth/EmeraldAshBorer.html>

Emerald ash borer cooperative state web site: <http://emeraldashborer.wi.gov/>

Forestry is now structured under Districts but Forest Health coverage continues under old region boundaries:

Old SCR Team Counties: Columbia, Dane, Dodge, Grant, Green, Iowa, Jefferson, Lafayette, Richland, Rock and Sauk

Old SER Team Counties: Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Walworth, Washington, and Waukesha